Lab Assignment
& Solution

Cybersecurity Professional Program

Introduction to Python
for Security

# Data Types
# & Conditions

## PY-02-LS4
## Dictionary Lab

**Note:** Solutions for the instructor are shown inside the green box.

## Lab Objective

Understand how to work with dictionaries and how to retrieve their content.

## Lab Mission

Practice using a dictionary that stores predefined data that a user can randomly request.

## Lab Duration

10–20 minutes

## Requirements

- Knowledge of how to handle input from the user.
- Working knowledge of variables and dictionaries.

## Resources

- Environment & Tools
    - Windows, Linux, MacOS
        - Python 3
        - PyCharm

## Textbook References

- Chapter 2: Data Types & Conditions
    - Section 1: Variables and User Output
    - Section 3: Conditions
    - Section 4: Advanced Data Structure

## Lab Task

Construct an interactive script that returns which service is associated with which port number.

For example:

```
For which protocol would you like to know the port number?
FTP

The port number for protocol FTP is 21!
```

1. Create a dictionary named **ProtocolsDict** that will hold the following keys and values: {FTP: 21, DNS: 53, LDAP: 389, MySQL: 3306}

```
ProtocolsDict = {'FTP':'21', 'DNS':'53', 'LDAP':'389',
'MySQL':'3306'}
```

2. Create a variable named **question** that will ask the user for the name of a service using the input() function.

```
question = input("For which protocol would you like to know
the port number?")
```

3. Create a condition to check if the value in the **question** variable exists in the dictionary. It should be checked against the dictionary's key list.

```
if question in ProtocolsDict.keys():
```

4. Select a value from the dictionary with the question variable as a key.

```
if question in ProtocolsDict.keys():
    answer = ProtocolsDict[question]
```

5. Print a message displaying the port associated with the selected service.

```
if question in ProtocolsDict.keys():
    answer = ProtocolsDict[question]
    print("The port number for protocol " + question + " is
" + answer + "!")
```

6 Finally, if the condition is not met, print a message stating that the protocol cannot be found.

```
else:
    print("The protocol can't be found")
```